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Approved For Release 2000/08/08 : CIA-RDP96-00788R001800010001-2

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The fact that the human body can develop the ability of exceptional vision [eyeless sight] suggests that in the natural world there may exist a unique, still unknown radiation. Since 1979, Szechuan Ribao, Beijing Keji Bao (Peking Science Report), Ziran (Nature), and other journals have published findings on exceptional capabilities of the human body. Using available techniques, we have conducted complex experimental research relating to methods of testing and measuring such unknown radiation. Among these techniques, the most effective are the following:

(1) Tests with nuclear emulsion film and X-ray film; (2) tests with thermoluminescent film; (3) tests with a biodetector; (4) tests with a light quanta detector.

Exceptional human capabilities can manifest as various types of phenomena. We realize that only by finding a precise, objective basis, and by gradually establishing controlled test methods, can we bridge research in exceptional human capabilities and present experimental science. Only then can we delineate the frontier between science and superstition.

Tests of "Exceptional Vision" with Nuclear Emulsion Film

In nuclear and particle physics research, testing with film is one of the most reliable and convenient ways of detecting natural radioactivity, the presence of pi-mesons, K-mesons, Σ-hyperons, and other particles.

According to initial tests, the majority of persons with "exceptional vision," while exercising their capability, could expose film sealed in a light-proof container with Chinese characters which the subject was attempting to identify. Over 700 tests with X-ray film, over 50 tests with nuclear emulsion film, and numerous tests with ordinary photographic film were conducted. These experiments demonstrated that when the subjects who possessed "exceptional vision" correctly recognized the characters, they simultaneously produced exposures of the film placed near the characters as well as other unusual effects. Occasionally they were even able to project images of the characters onto the nearby film (Figs. 1,2).

When a microscope was used to observe unusual exposures of a nuclear emulsion film produced by Yu, an individual with "exceptional vision," it was found that most of the silver grains removed from the membrane had accumulated in a surface layer of 0-10 microns. The maximum depth was about 30 microns. The vertical distribution of silver grains indicated that the influence of unknown radiation is similar to the effect of visible light, but the penetration of this radiation is somewhat deeper into the emulsion.

Thorough inspection of the container used for the film test, of the testing methods, and of the brush and paper [for writing the characters], excluded known types of radiation, fluorescence, chemical interactions, light leaks or radioactive decay from producing the observed effect. Comparison of selected containers of different shapes and materials in various experimental conditions led to the following conclusions:

1. This unknown radiation, when compared to known types of physical radiation, manifests a more complicated spatial distribution.

2. The radiation has unusual penetrating power and selectivity. Only when near the recognized target characters, does it produce effects resembling the physical effects of visible light, while in other areas its impact is near zero.

Tests of "Exceptional Vision" with Thermoluminescent Film

The use of thermoluminescent film for measuring radioactivity is one of the most appropriate and sensitive methods. It is widely used in nuclear medicine as well as in environmental and personal dosimetric observation.

Fig. 3 shows statistical results of preliminary tests with thermoluminescent film, obtained from approximately

4,000 experiments in the exceptional-vision process. During these tests, influences of infrared, magnetic, and chemical factors, and even of solar activity, were compared to the influence of "exceptional vision" and eliminated. The test results have shown:

1. When individuals with "exceptional vision" exercise their capability, they can influence thermoluminescent film, placed near the recognized characters, 10^2–10^3 more than is observed in control tests [i.e. without the attempted influence of any individual].

2. When individuals who do not manifest exceptional capabilities attempt to exert the influence on the same sort of samples, they also can produce a response on thermoluminescent film many times greater than in control tests.

3. When exceptional individuals were tested in their usual state, i.e., when not exercising their special capability, the response of thermoluminecsent film was not clearly different from that produced by normal individuals. The design of the thermoluminescent film test resembles that of the test with photographic film. Results of these tests partially confirm the results of the photographic film tests and provide a quantitative basis for some initial measurements. They not only show that during "exceptional vision" a strong unknown radiation is emitted, but also show that normal persons emit a relatively low, unknown radiation as well.

For these tests we used American film, made by the Harshaw Chemical Co.: 6LiF, 7LiF, CaF, and Chinese film LiF (Mg, Ti). A thermoluminescent dosimetric analyser produced by the Beijing Synthetic Apparatus Plant (model FL-369) was used for evaluating results.

Tests of Unknown Radiation with a Biodetector

The greatest disadvantage of photographic and thermoluminescent film tests is their failure to show kinetic response [changes in time], so that there is no way to study the delicate time specificity of unknown radiation.

Both the biodetector and the light quanta detector can demonstrate kinetic responses in a test system, but the various types of biodetectors provide more possibilities for experimentation. We have already used a set of simple biodetectors for measuring bioelectric changes in a plant leaf vein (Fig. 4). Yet, because the main component of the biodetector is a living system [a plant leaf],* we cannot expect that the system has sufficient stability. Nevertheless, since the degree of sensitivity obtained from this method is significant, and since it is relatively widespread and easy to operate, it will certainly arouse the interest of many researchers.

The system can sensitively record the impact of unknown radiation related to the exceptional-vision process as well as indicate impulses (Fig. 5) caused by unknown radiation from normal individuals trained in exceptional abilities. However, when compared with the responses obtained in the exceptional-vision process, in the latter case the waveform of responses is different (Fig. 6). The other radiation sources used (heat source, infrared light, and visible radiation), when influencing the biodetector, did not elicit responses of comparable sensitivity. Since moisture and chemical effects produced different responses, they were eliminated as possible causes.

Tests of Unknown Radiation with a Light-Quanta Detector

The light-quanta detector overcomes the drawbacks of the biodetector, i.e., its lack of stability. It yields virtually the same results as the biodetector tests, although its degree of sensitivity may be insufficient for studying trained abilities. (For a design of the system, see Fig. 7.) The system, however, is equally sensitive with regard to visible light, near infrared, and near ultraviolet. At a wavelength of 4,400 A, the peak value of photon efficiency is about 20-30%. The system is also sensitive to electrons above the megaelectron-volt level, such as from a Sr^{90} beta source.

* See Zhao Yongjie, Xu Hongzhang, et al., "Biodetector Experiments on Human Body Radiation Physics," Psi Research, Vol. 1, No. 1, pp. 77-84 - Ed.

Our oscillographic observations, shielding, adequate grounding, and other measures eliminated the possibility of interference from environmental magnetic impulses. We simultaneously eliminated conditions for light leaks and wear and tear during the tests.

Our tests have demonstrated that the system produced very strong impulse responses to the processes accompanying "exceptional vision." The leading edge of such impulses is extremely steep; the count value is at least 10^2 - 10^3 times more than the system's control value. The value of a plotter suddenly rose within a second from 1,000 to 10,000 counts, while the control value was 80±20 counts every 6 seconds. Such a high value ratio usually causes a multi-channel analyser to generate overload blocking. Individuals with "exceptional vision" must touch the surface of the light-proof material (many layers of black cloth), or their radiation will be outside of the "measuring area." All these factors obscure the above results to a certain extent, although these results do agree with the findings pertaining to the width of permeability and fixed-area selectivity yielded by the film tests. It is hard to imagine that ordinary photons or electrons could penetrate such material, reach the photocathode, and thus be recorded.

This system can also elicit a corresponding response to unknown radiation produced by normal persons exercising their trained abilities. Yet, compared to the special-vision process, the oscillation of their response signals will be much slower, and the intensity of pulsation much lower. Study of the spectrum of rise or fall of the count pulses in such responses demonstrates that the response spectrum of the unknown radiation coming from the exceptional vision process contains a maximum of high-amplitude count pulses. The trained-ability spectrum contains almost no high-amplitude count pulses (Fig. 8).

Discussion and Conclusion

The above four test methods, while still very rudimentary, are relatively basic and can be duplicated. Their results are mutually confirmatory and supplement one another. The first steps have proven that, in the natural world, there exists an unknown radiation which is reciprocally connected with the life process. Compared with generally known physical radiation, this radiation has a more complex distribution in space and time. When recorded by the biodetector or photon detector, it demonstrates an impulse waveform with a rather steep leading edge. Its pulsation intensity is at least 100-1,000 times more than in control tests. There are no fixation periods.

This radiation possesses a special penetrative ability and fixed-area sensitivity. Near target objects it has the effect of visible light. It has a physical basis resembling that of unknown radiation during the trained-ability activity of normal persons.

We hope that our first steps will lead to more progress in research.

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English Translation by J.H. Paasche

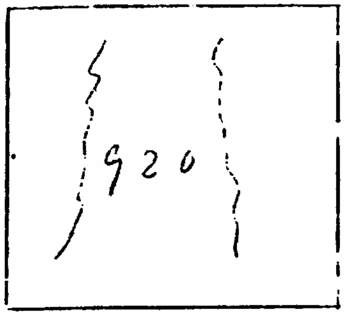

图1. 特异视觉人王X在X光胶片上产生的局部感光及投影"920"

Fig. 1. "Exceptional vision" person Wang. Photographic exposures and projection of the number "920" onto X-ray film.

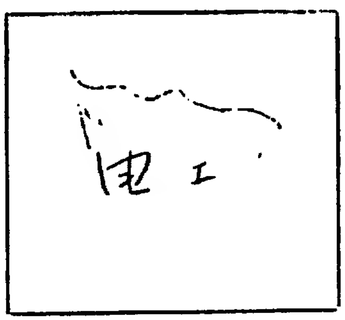

图2: 特异视觉人于XX在核乳胶片上产生的局部感光及投影"电工"

Fig. 2. "Exceptional vision" person Yu. Photographic exposures and projection of the characters "dian gong" on nuclear emulsion film.

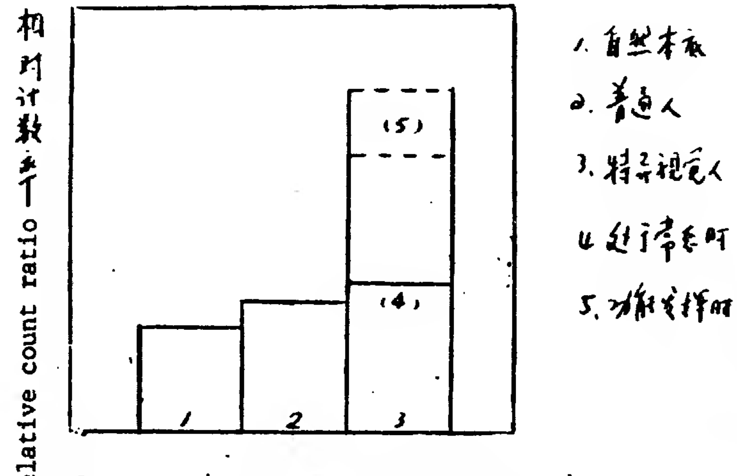

图3: 人体未知辐射的热释光片响应

Fig. 3. Relative response of thermoluminescent film to unknown human body radiation. (1) Control film (2) Ordinary person (3) "Exceptional vision" person (4) During usual condition (5) While excercising the ability.

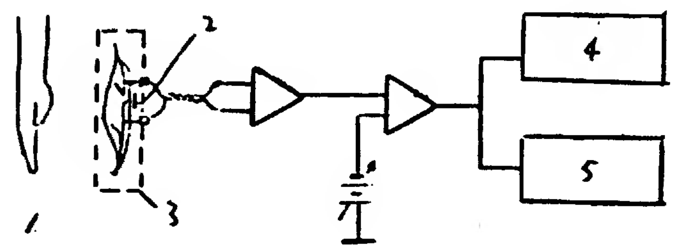

图4: 一种生物探测器系统示意图，其中 1.受试人；2.字样；3.容器；4.示波器；5.记录仪

Fig. 4. Design of the biodetector system. (1) Subject (2) Image of Chinese character (3) Container (4) Oscillograph (5) Recorder.

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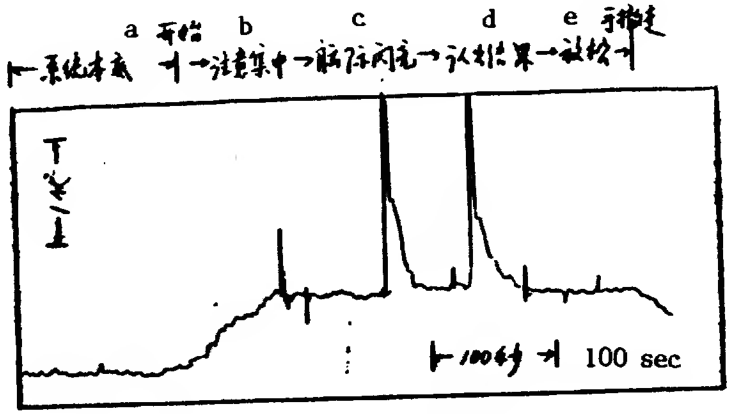

图5：特异视觉过程的生物探测器响应

Fig. 5. System film: (a) beginning (b) concentration of attention (c) "brain cell flashes" (d) release (e) removal of hand.

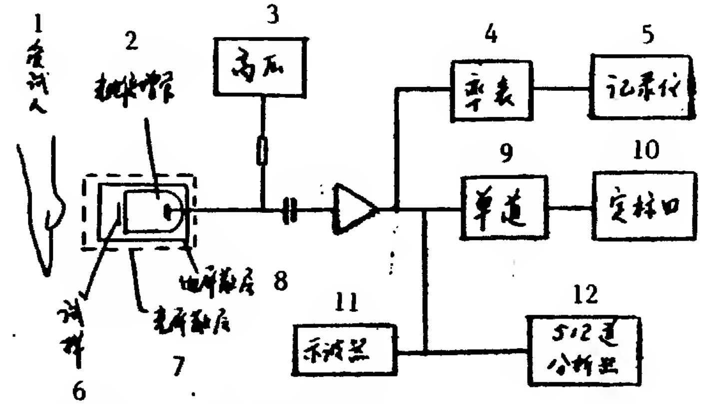

图7：光量子探测器系统示意图.

Fig. 7. Design of light quanta detector system. (1) Subject (2) Photomultiplier tube (3) High voltage (4) Potentiometer (5) Recorder (6) Image for recognition (7) Light shield (8) Electric shield (9) Single channel analyzer (10) Plotter (11) Oscillograph (12) Multi-channel analyser.

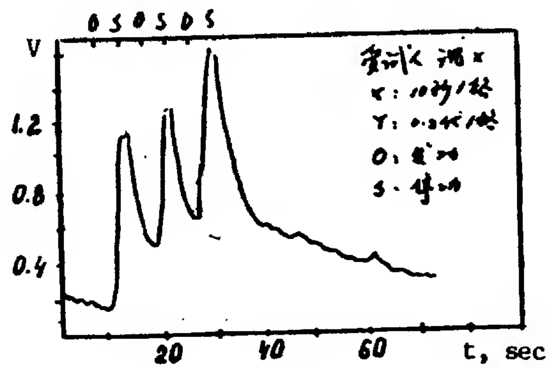

图6：气功外气的生物探测器响应（沈××作气功）

Fig. 6. Subject Shen with trained exceptional abilities (using qigong system). Response of the biodetector: 0 - excercise of trained ability, S - end of excercising trained ability.

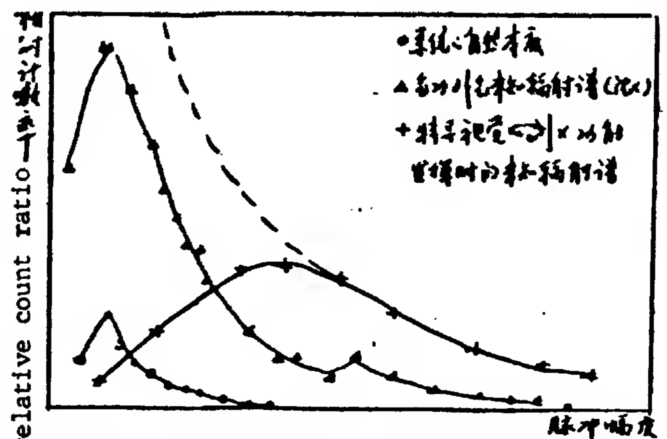

图8：人体未知辐射的计数脉冲幅度谱

Fig. 8. Impulse amplitude spectrum of unknown human body radiation: ● - natural film, ▲ - unknown radiation produced by a person with trained ability (Shen), + - unknown radiation produced during excercise of "exceptional vision" ability.

International interaction and cooperation in this field are especially important. When ancient civilization is properly interfaced with modern technology, when the Eastern cultural tradition is closely integrated with Western scientific thought, a truly golden time of science will be here, the brilliance of which will be more glorious than its first Renaissance period.

* * *

EHBF Radiation: Special Features of the Time Response

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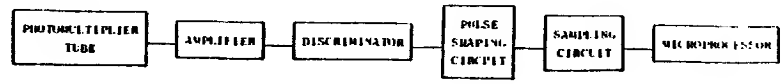
In early experiments we used standard nuclear emulsion film techniques to measure radiation associated with exceptional human body function (EHBF). Results showed that under certain special conditions of exceptional functioning, individuals emit some type of radiation which registers on film as would light.

To follow up these results we carried out further experimentation using a photomultiplier tube measurement system as a detector of EHBF radiation. In this work, signals were detected in measurements monitoring individuals with special skills. The following is a summary of these measurements.

For the first series of measurements we used a system for which the background count rate was about 100 counts per 6-sec interval. During experiments to measure EHBF radiation, peak count rates reached approximately 10^5 counts per 6-sec interval, an increase of 2 to 3 orders of magnitude relative to the background. The accompanying figure (Fig. 1) is of the output of a standard multichannel analyzer. With the scale set to observe count rates associated with EHBF radiation, the background count rate does not show in this figure because of its small magnitude.

Over the period during which we measured EHBF radiation many times, we discovered that the radiation appeared in the form of pulses of extremely short duration. In order to improve the accuracy of our measurements of EHBF radiation, we then assembled the following system.



In this configuration, EHBF radiation detected by the photomultiplier tube is sampled at a 1 millisecond rate. The output of the sampling circuit is fed into a microprocessor, which processes the data and thus acts as a radiation monitor. Using this particular system to study EHBF radiation, we are able to study such radiation in the time domain.

When one examines sequences of millisecond intervals during which EHBF radiation is detected, one observes three kinds of typical behavior:

(1) 0, 1, 1, 1, 1, 2, 14, 0, 3, 12, 62, 1, 1, 0, 2
(2) 0, 2, 1, 0, 0, 0, 0, 82, 0, 0, 1, 1, 0, 0, 1
(3) 0, 0, 0, 0, 6, 13, 98, 45, 1, 0, 0, 1, 0, 2, 0

The above sequences were obtained during efforts of a little girl to recognize hidden words sealed in an opaque enclosure containing the photomultiplier tube. The changes occurred during the time she recognized a word correctly. For comparison, the background count rate typically does not exceed 4 counts per millisecond interval.

The above results indicate that EHBF radiation occurs during time intervals of only a few milliseconds, and in some cases may occur as pulses of less than 1 msec duration. In other words, **whenever radiation appears, the appearance is very short, and the transient change is extreme** [emphasis added – Ed.].

Although in our experiment it would appear that we have measured light, this does not necessarily mean that EHBF radiation is in the form of light. All we can say is that in this test we have obtained the particular effect described. Since the enclosure containing a word to be recognized is opaque to light, one possibility is that the

EHBF radiation signal has the special property of being able to penetrate the shielding material, whereupon the radiation interacts with other material within the enclosure to produce light. This signal is then registered, and it is the measurement of the light signal which reveals the temporal characteristics of the EHBF radiation. Therefore, the actual carrier mechanism involved in EHBF radiation is still an open question that requires further study.

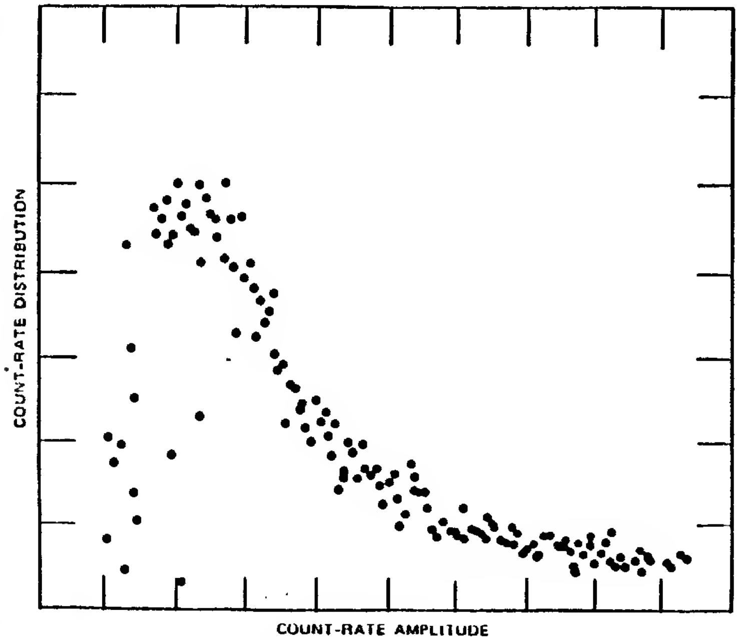


Fig. 1. Multichannel analyzer output

DECIPHERING THE NERVE CODE OF HUMAN MENTAL ACTIVITY: SOVIET RESEARCH

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The article presented below is translated from Tainovedenie (No. 2, 1982), an Israeli magazine in Russian published by Avraham Shifrin and a group of emigrants from the USSR. Though it is not directly connected with studies of psi, we feel that it might be of interest to our readers. - Ed.

In the middle of the 1970's researchers in the Soviet Union had come very close to solving the problem of deciphering the nerve code of human mental activity. Conducting research in this area became possible after the implanting of multiple long-term electrodes came into clinical practice. The theoretical purpose of the research was the study of the neurophysiological coding and decoding of the brain's structural and functional organization in response to psychological tests on short and long-term memory.

The practical goals of the research were:

1. A more precise formulation of clinical diagnosis of cerebral lesions and a better choice of optimal methods of treatment.

2. The development of methods for selecting the optimal locations in the brain for treatment and regulation by electrostimulation.

3. Controlling memory processes.

4. Deciphering a subject's mental activity on the basis of the statistical processing of the activity of neuron populations in deep brain structures.

I was a direct participant in researching this topic, first as a volunteer student (1965-1970) and later (1970-1975) as a research associate at the Department of Human Neurophysiology of the USSR Academy of Medical Sciences' Institute of Experimental Medicine in Leningrad. (The head of the department and Director of the Institute is

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